

~~and visualizing whereby plaque in which contrast agent is uptaken, infarcted tissue, or necrotic tissue are visualized~~

or

independently simultaneously visualizing necroses and tumors in which contrast agent is uptaken ~~are independently visualized.~~

52. (Canceled)

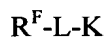
53. (Previously Presented) A method according to claim 51, wherein necroses or tumors are independently visualized.

54. (Previously Presented) A method according to claim 51, wherein the metal complex has a micelle formation concentration of $< 10^{-4}$ mol/l.

55. (Previously Presented) A method according to claim 51, wherein the metal complex has a hydrodynamic micelle diameter of > 3 nm.

56. (Previously Presented) A method according to claim 51, wherein the metal complex has a proton relaxivity in plasma of > 13 l/mmol.s.

57. (Currently amended) A method according to claim 51, wherein the perfluoroalkyl-containing metal complex is a compound of formula I



I

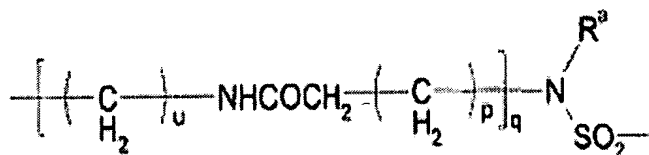
in which

R^F is a perfluorinated, straight-chain or branched carbon chain with formula -
 $C_nF_{2n}E$, in which

E is a terminal fluorine, chlorine, bromine, iodine or hydrogen atom and

n is a number from 4-30,

L is a direct bond, a methylene group, an -NHCO- group, a group



whereby p is a number from 0 to 10, and q and n, independently of one another, are 0 or 1, and R^a is a hydrogen atom, a methyl group, a -CH₂-OH group, a -CH₂-CO₂H group or a C₂-C₁₅ alkyl, which optionally is interrupted by 1 to 3 oxygen atoms, 1 to 2 CO groups or an optionally substituted aryl group and/or is substituted with 1 to 4 hydroxyl groups, 1 to 2 C₁-C₄ alkoxy groups, 1 to 2 carboxy groups, or a group -SO₃H,

or

L is a straight-chain, branched, saturated or unsaturated C₂-C₃₀ carbon chain, which optionally contains 1 to 10 oxygen atoms, 1 to 3 -NR^a groups, 1 to 2 sulfur atoms, a piperazine group, a -CONR^a group, an -NR^aCO group, an -SO₂ group, an -NR^a-CO₂ group, 1 to 2 CO groups, a group -CO-N-T-N(R^a)-SO₂-R^F, or 1 to 2 optionally substituted aryls and/or is interrupted by these groups and/or is optionally substituted with 1 to 3 -OR^a groups, 1 to 2 oxo groups, 1 to 2 -NH-COR^a groups, 1 to 2 -CONHR^a groups, 1 to 2 -(CH₂)_p-CO₂H groups, 1 to 2 groups -(CH₂)_p-(O)_q-CH₂CH₂-R^F,

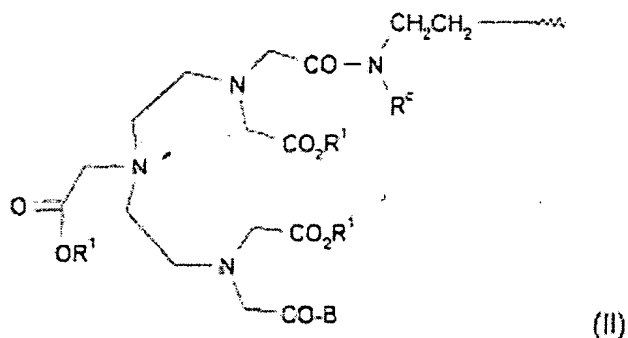
whereby

R^a, R^F and p and q have the above-indicated meanings, and

T is a C₂-C₁₀ chain, which optionally is interrupted by 1 to 2 oxygen atoms or 1

to 2 -NHCO groups,

K is a complexing agent or metal complex of formula II



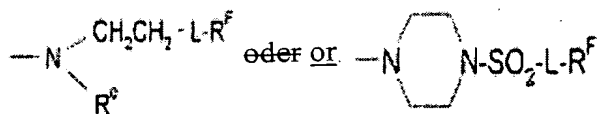
in which R^c , R^1 and B are independent of one another,

and

R^c is R^a or is $-(CH_2)_m-L-R^F$, whereby m is 0, 1 or 2, and L and R^F have the above-mentioned meaning,

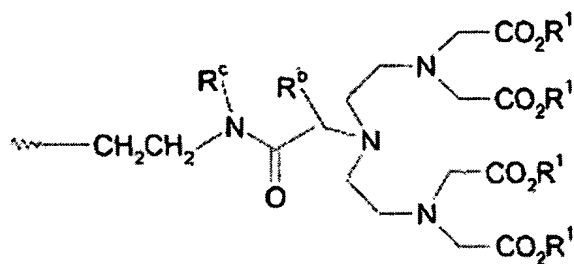
R^1 , independently of one another, is a hydrogen atom or a metal ion equivalent of atomic numbers 22-29, 42-46 or 58-70,

B is $-OR^1$,



whereby R^1 , L, R^F and R^c have the above-mentioned meanings, or

K is a complexing agent or complex of formula III

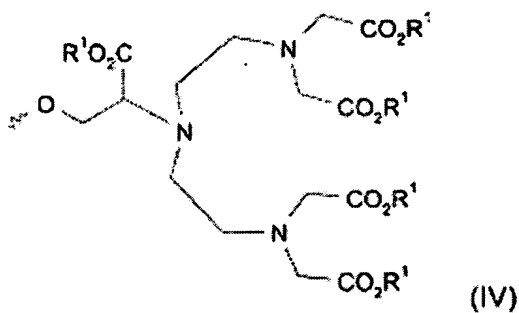


(III)

in which R^c and R^1 have the above-mentioned meanings and R^b has the meaning of R^a

or

K is a complexing agent or complex of formula IV

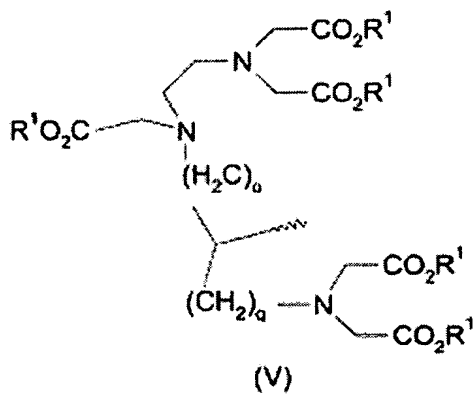


(IV)

in which R^1 has the above-mentioned meaning

or

K is a complexing agent or complex of formula V

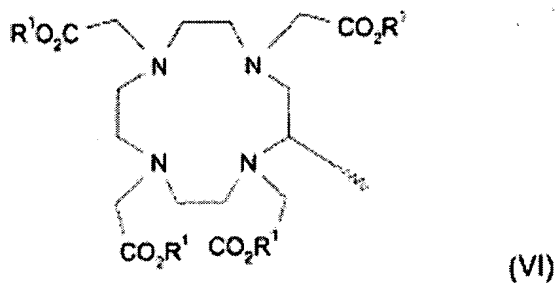


(V)

in which R^1 has the above-mentioned meaning, and o and q stand for numbers 0 or 1, and yields the sum $o + q = 1$,

or

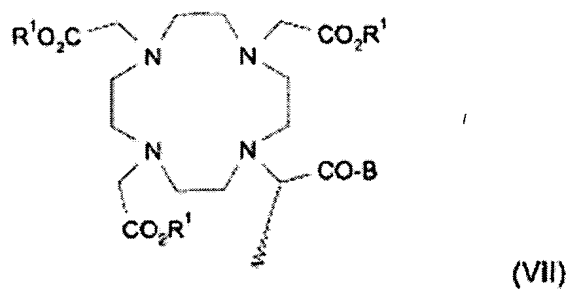
K is a complexing agent or complex of formula VI



in which R^1 has the above-mentioned meaning

or

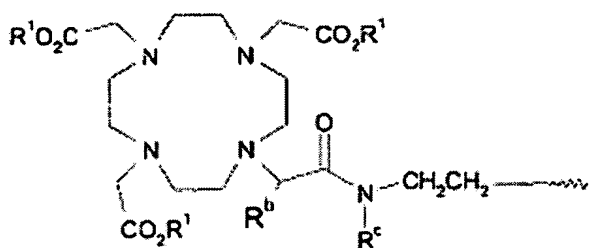
K is a complexing agent or complex of formula VII



in which R^1 and B have the above-mentioned meanings

or

K is a complexing agent or complex of formula VIII

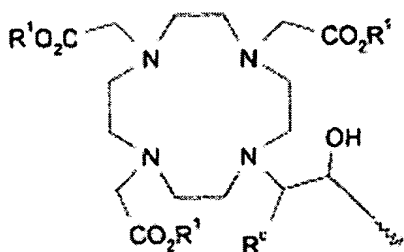


(VIII)

in which R^c and R^1 have the above-mentioned meanings, and R^b is R^a

or

K is a complexing agent or complex of formula IX

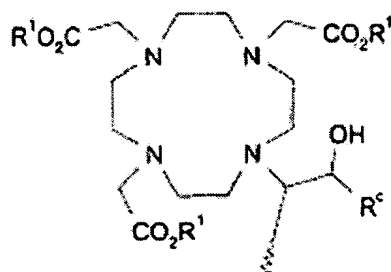


(IX)

in which R^c and R^1 have the above-mentioned meanings,

or

K is a complexing agent or complex of formula X

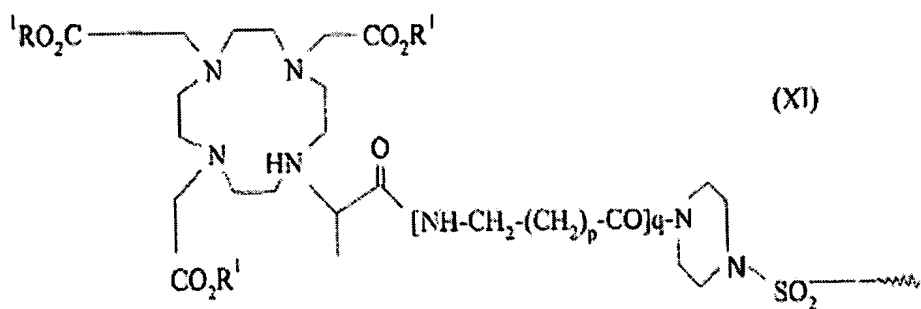


(X)

in which R^c and R^1 have the above-mentioned meanings,

or

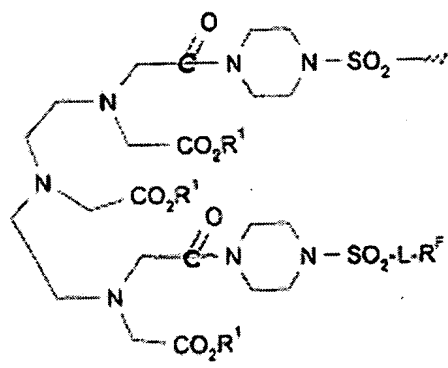
K is a complexing agent or complex of formula XI



in which R^1 , p and q have the above-mentioned meanings,
and R^b has the meaning of R^a ,

or

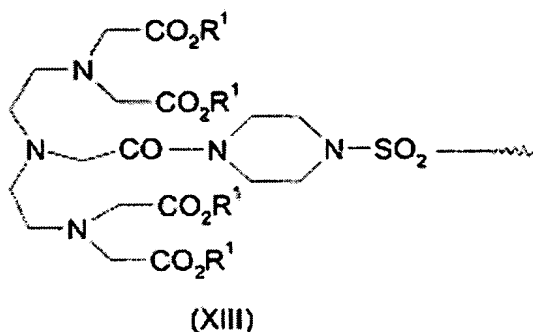
K is a complexing agent or complex of formula XII



in which L , R^F and Z^1 have the above-mentioned meanings,

or

K is a complexing agent or complex of formula XIII



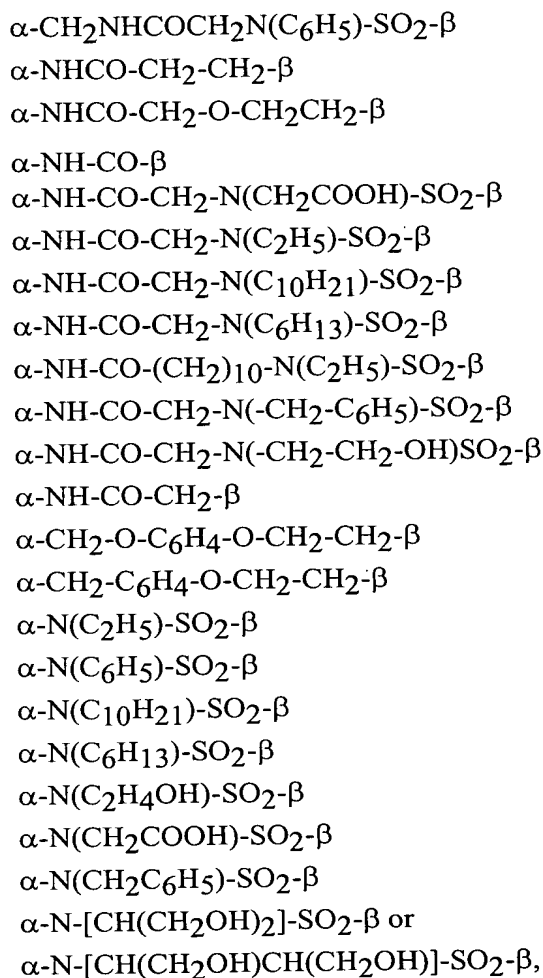
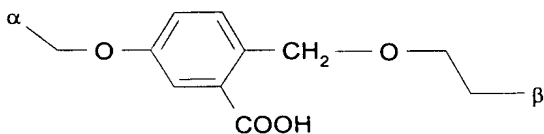
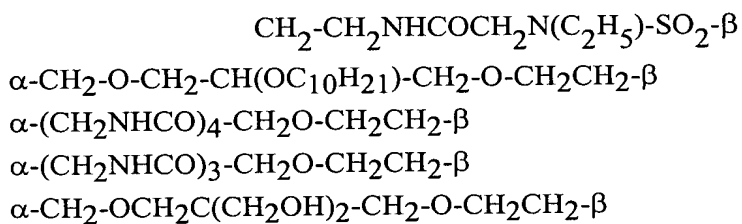
in which R^1 has the above-mentioned meaning, or

K is a salt of one of the complexing agents or complexes of formula II to XIII with an organic and/or inorganic base or amino acid or amino acid amide.

58. (Previously Presented) A method according to claim 57, wherein in the compound of formula I,

L is

- $\alpha\text{-CH}_2\text{-}\beta$
- $\alpha\text{-CH}_2\text{CH}_2\text{-}\beta$
- $\alpha\text{-(CH}_2\text{)}_s\text{-}\beta \quad s = 3 - 15$
- $\alpha\text{-CH}_2\text{-O-CH}_2\text{CH}_2\text{-}\beta$
- $\alpha\text{-CH}_2\text{-(O-CH}_2\text{-CH}_2\text{)}_t\text{-}\beta \quad t = 2 - 6$
- $\alpha\text{-CH}_2\text{-NH-CO-}\beta$
- $\alpha\text{-CH}_2\text{-NH-CO-CH}_2\text{-N(CH}_2\text{COOH)-SO}_2\text{-}\beta$
- $\alpha\text{-CH}_2\text{-NH-CO-CH}_2\text{-N(C}_2\text{H}_5\text{)-SO}_2\text{-}\beta$
- $\alpha\text{-CH}_2\text{-NH-CO-CH}_2\text{-N(C}_{10}\text{H}_{21}\text{)-SO}_2\text{-}\beta$
- $\alpha\text{-CH}_2\text{-NH-CO-CH}_2\text{-N(C}_6\text{H}_{13}\text{)-SO}_2\text{-}\beta$
- $\alpha\text{-CH}_2\text{-NH-CO-(CH}_2\text{)}_{10}\text{-N(C}_2\text{H}_5\text{)-SO}_2\text{-}\beta$
- $\alpha\text{-CH}_2\text{-NH-CO-CH}_2\text{-N(-CH}_2\text{-C}_6\text{H}_5\text{)-SO}_2\text{-}\beta$
- $\alpha\text{-CH}_2\text{-NH-CO-CH}_2\text{-N(-CH}_2\text{-CH}_2\text{-OH)-SO}_2\text{-}\beta$
- $\alpha\text{-CH}_2\text{-NHCO-(CH}_2\text{)}_{10}\text{-S-CH}_2\text{CH}_2\text{-}\beta$
- $\alpha\text{-CH}_2\text{NHCOCH}_2\text{-O-CH}_2\text{CH}_2\text{-}\beta$
- $\alpha\text{-CH}_2\text{NHCO(CH}_2\text{)}_{10}\text{-O-CH}_2\text{CH}_2\text{-}\beta$
- $\alpha\text{-CH}_2\text{-C}_6\text{H}_4\text{-O-CH}_2\text{CH}_2\text{-}\beta$
- $\alpha\text{-CH}_2\text{-O-CH}_2\text{-C(CH}_2\text{-OCH}_2\text{CH}_2\text{-C}_6\text{F}_{13}\text{)}_2\text{-CH}_2\text{-OCH}_2\text{-CH}_2\text{-}\beta$
- $\alpha\text{-CH}_2\text{-NHCOCH}_2\text{CH}_2\text{CON-CH}_2\text{CH}_2\text{NHCOCH}_2\text{N(C}_2\text{H}_5\text{)SO}_2\text{C}_8\text{F}_{17}$



in which α is the binding site to the complexing agent or metal complex K, and β is the binding site to the fluorine radical.

59. **(Previously Presented)** A method according to claim 57, wherein the compound of formula I, is a compound in which n in formula $-C_nF_{2n}E$ is a number from 4-15 and/or E is a fluorine atom.

60. **(Previously Presented)** A method according to claims 57, wherein the compound of formula I is:

Gadolinium complex of 10-[1-methyl-2-oxo-3-aza-5-oxo-{4-perfluorooctylsulfonyl-piperazin-1-yl}-pentyl]-1,4,7-tris(carboxymethyl)-1,4,7,10-tetraazacyclododecane,

Gadolinium complex of 10-[2-hydroxy-4-aza-5-oxo-7-oxa-10,10,11,11,12,12,13,13,14,14,15,15,16,16,17,17-heptafluoroheptadecyl]-1,4,7-tris(carboxymethyl)-1,4,7,10-tetraazacyclododecane,

Gadolinium complex of 10-[2-hydroxy-4-aza-5,9-dioxo-9-{4-perfluorooctyl}-piperazin-1-yl]-nonyl]-1,4,7-tris(carboxymethyl)-1,4,7,10-tetraazacyclododecane,

Gadolinium complex of 10-[2-hydroxy-4-aza-5-oxo-7-aza-7-(perfluorooctylsulfonyl)-nonyl]-1,4,7-tris(carboxymethyl)-1,4,7,10-tetraazacyclododecane,

Gadolinium complex of 10-[2-hydroxy-4-oxa-1H,1H,2H,3H,3H,5H,5H,6H,6H-perfluorotetradecyl]-1,4,7-tris(carboxymethyl)-1,4,7,10-tetraazacyclododecane,

Gadolinium complex of 10-[2-hydroxy-4-aza-5-oxo-7-oxa-10,10,11,11,12,12,13,13,14,14,15,15,-16,16,17,17,18,18,19,19-henicosafuoro-nonadecyl]-1,4,7-tris(carboxymethyl)-1,4,7,10-tetraazacyclododecane,

Gadolinium complex of 10-[2-hydroxy-4-aza-5-oxo-11-aza-11-(perfluorooctylsulfonyl)-tridecyl]-1,4,7-tris(carboxymethyl)-1,4,7,10-tetraazacyclododecane, or

Gadolinium complex of 10-[2-hydroxy-4-aza-5-oxo-7-aza-7-

(perfluorooctylsulfonyl)-8-phenyl-octyl]-1,4,7-tris(carboxymethyl)-1,4,7,10-tetraaza-cyclododecane.

61. **(Previously Presented)** A method according to claim 51, wherein the perfluoroalkyl-containing metal complex, is a compound of formula Ia



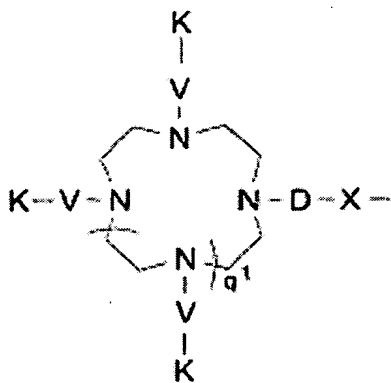
in which

A is a group that contains 2 to 6 metal complexes, which are bonded directly or via a linker to a nitrogen atom of an annular skeleton chain,
and

R^F is a perfluorinated, straight-chain or branched carbon chain with formula $-C_nF_{2n}E$, in which

E is a terminal fluorine, chlorine, bromine, iodine or hydrogen atom,
and n is a number from 4-30,

whereby A has the following structure:



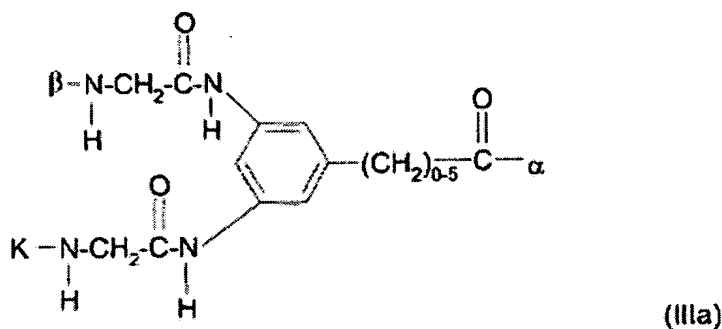
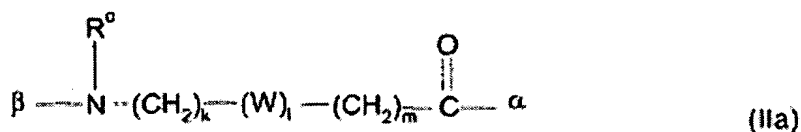
whereby

q' is 0, 1, 2 or 3,

K is a complexing agent or metal complex or a salts thereof with an organic and/or inorganic base or amino acid or amino acid amide,

X as the point of attachment to R^F, is a direct bond, a phenylene group or a C₁-C₁₀ alkylene chain, which optionally contains 1-15 oxygen atoms, 1-5 sulfur atoms, 1-10 carbonyl groups, 10-10 (NR^d) groups, 1-2 NR^dSO₂ groups, 1-10 CONR^d groups, 1 piperidine group, 1-3 SO₂ groups and/or 1-2 phenylene groups or optionally is substituted by 1-3 radicals R^F, in which R^d is a hydrogen atom, a phenyl group, benzyl group or a C₁-C₁₅ alkyl group, which optionally contains 1-2 NHCO, 1-2 CO groups, 1-5 oxygen atoms and optionally is substituted by 1-5 hydroxy, 1-5 methoxy, 1-3 carboxy, or 1-3 R^F radicals,

V is a direct bond or a chain of formula IIa or IIIa:



in which

- R^e is a hydrogen atom, a phenyl group, a benzyl group or a C₁-C₇ alkyl group, which optionally is substituted with a carboxy group, a methoxy group or a hydroxy group,
- W is a direct bond, a polyglycol ether group with up to 5 glycol units, or a group of formula IVa



in which R^h is a C_1 - C_7 carboxylic acid, a phenyl group, a benzyl group or a $-(CH_2)_{1-5}-NH-K$ group,

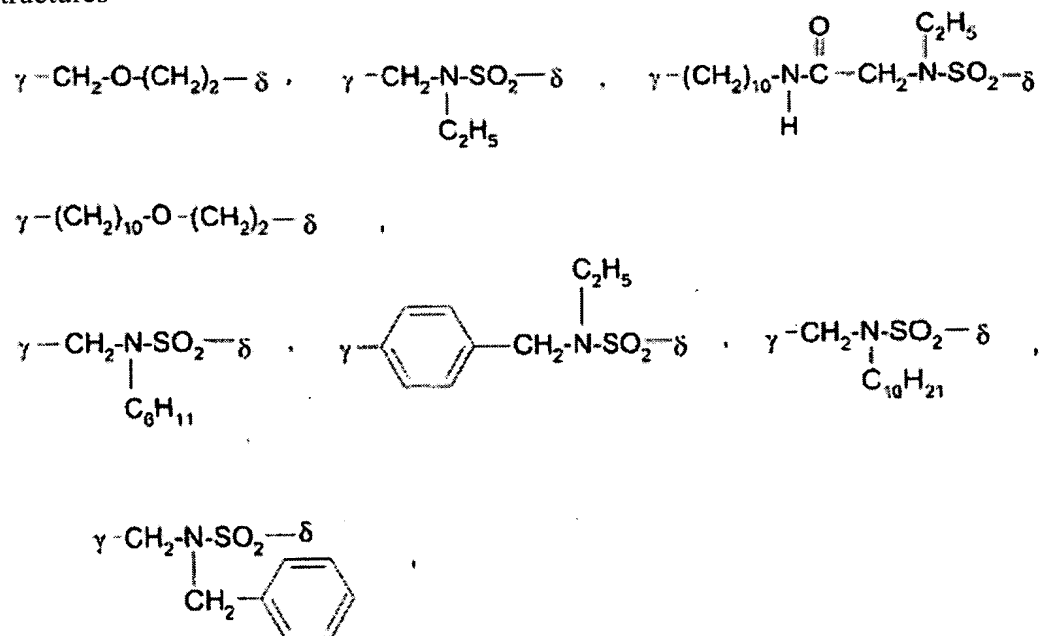
- α is the binding to the nitrogen atom of the skeleton chain, β is the binding to complexing agent or metal complex K,
- and in which variables k and m stand for natural numbers between 0 and 10, and l is 0 or 1

and whereby

D is a CO or SO₂ group.

62. **(Previously Presented)** A method according to claim 61, wherein the compound of formula Ia is a compound in which q^1 is the number 1.

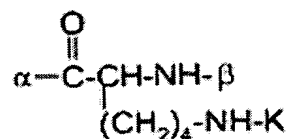
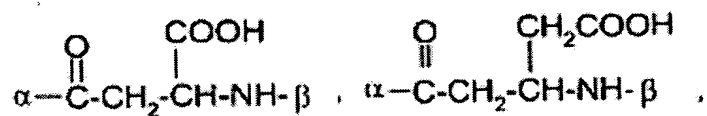
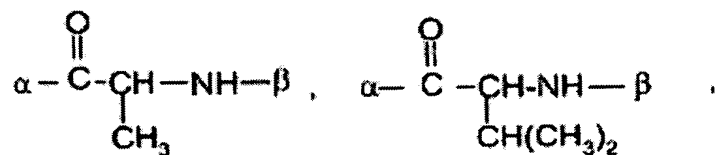
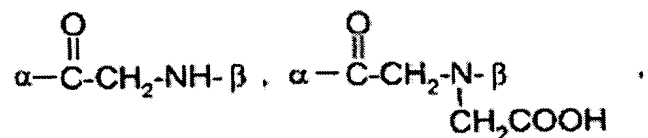
63. **(Previously Presented)** A method according to claim 61, wherein the compound of formula Ia is a compound in which X is an alkylene chain, which contains 1-10 $-CH_2CH_2O-$ groups or 1-5 $-COCH_2NH-$ groups, a direct bond or one of the following structures



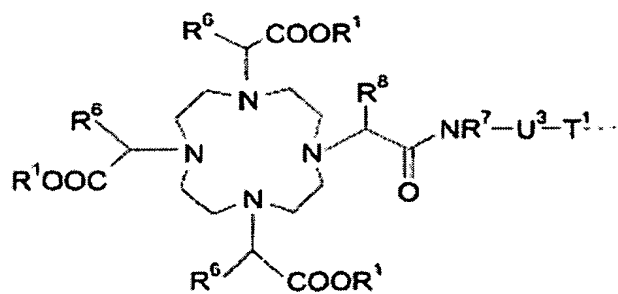
whereby

γ binds to D, and δ binds to R^F .

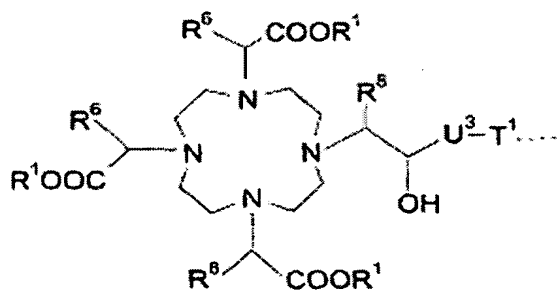
64. (Previously Presented) A method according to claim 61, wherein the compound of formula Ia, is a compound in which V is a group with one of the following structures



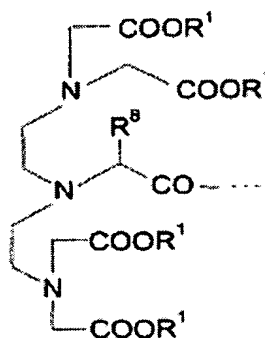
65. (Previously Presented) A method according to claim 61, wherein the compound of formula Ia, is a compound in which K is a complexing agent or complex of formula Va, VIa, VIIa or VIIIa,



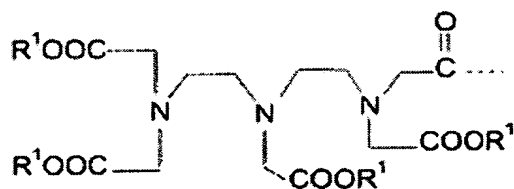
(Va)



(Via)



(VIIa)



(VIIIa)

whereby

R^1 , independently of one another, are a hydrogen atom or a metal ion equivalent of the elements of atomic numbers 23-29, 42-46 or 58-70,
 R^8 is a hydrogen atom or a straight-chain, branched, saturated or unsaturated C_1 - C_{30} alkyl chain, which optionally is substituted by 1-5 hydroxy, 1-3

carboxy or 1 phenyl group(s) and/or optionally is interrupted by 1-10 oxygen atoms, 1 phenylene group or 1 phenylenoxy group,

R^6 are independently a hydrogen atom, a straight-chain or branched C_1 - C_7 alkyl radical, a phenyl radical or benzyl radical,

R^7 is a hydrogen atom, a methyl group or ethyl group, which optionally is substituted by a hydroxy group or carboxy group,

U^3 is a straight-chain, branched, saturated or unsaturated C_1 - C_{20} alkylene group optionally containing 1-5 imino groups, 1-3 phenylene groups, 1-3 phenylenoxy groups, 1-3 phenylenimino groups, 1-5 amide groups, 1-2 hydrazide groups, 1-5 carbonyl groups, 1-5 ethylenoxy groups, 1 urea group, 1 thiourea group, 1-2 carboxyalkylimino groups, 1-2 ester groups, 1-1-0 oxygen atoms, 1-5 sulfur atoms and/or 1-5 nitrogen atoms, and/or optionally substituted by 1-5 hydroxy groups, 1-2 mercapto groups, 1-5 oxo groups, 1-5 thioxo groups, 1-3 carboxy groups, 1-5 carboxyalkyl groups, 1-5 ester groups and/or 1-3 amino groups, whereby the optionally contained phenylene groups can be substituted by 1-2 carboxy groups, 1-2 sulfone groups or 1-2 hydroxy groups

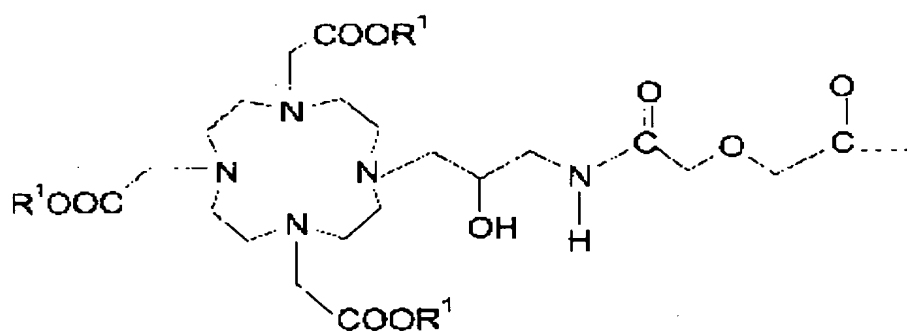
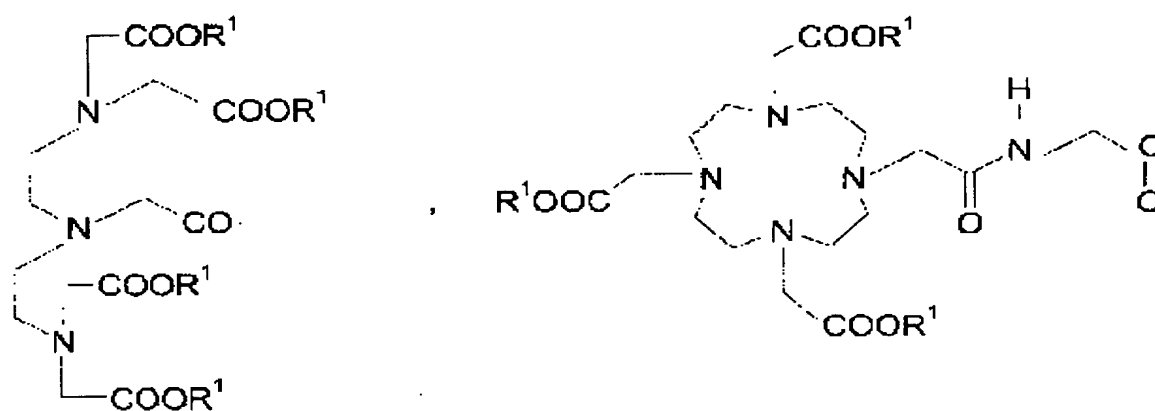
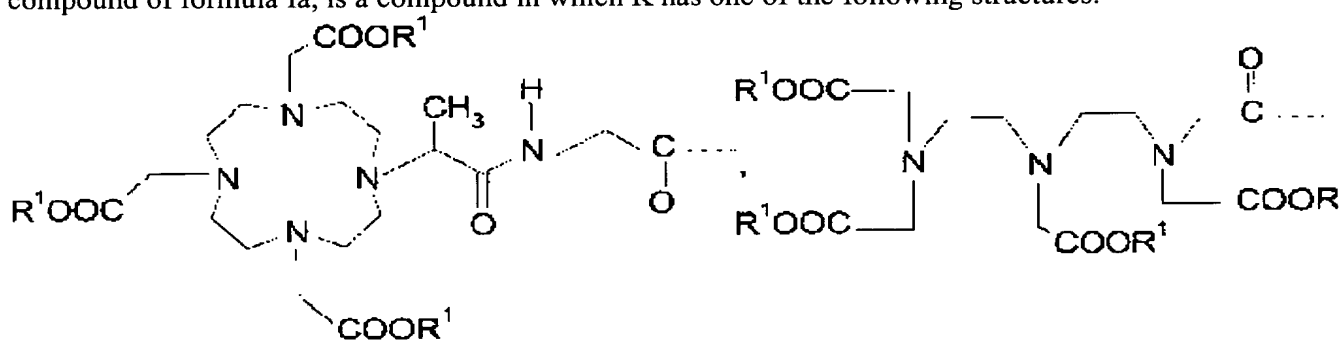
T^1 is a $-CO-\beta$, $-NHCO-\beta$ or $-NHCS-\beta$ group, whereby β is the binding site to V.

66. **(Previously Presented)** A method according to claim 65, wherein the C_1 - C_{20} alkylene chain that is U^3 contains the group $-CH_2NHCO-$, $-NHCOCH_2O-$, $-NHCOCH_2OC_6H_4-$, $-N(CH_2CO_2H)-$, $-CH_2OCH_2-$, $-NHCOCH_2C_6H_4-$, $-NHCSNHC_6H_4-$, $-CH_2OC_6H_4-$, or $-CH_2CH_2O-$ and/or is substituted by the group $-COOH$ and/or $-CH_2COOH$.

67. **(Previously Presented)** A method according to claim 65, wherein U^3 is a $-CH_2-$, $-CH_2CH_2-$, $-CH_2CH_2CH_2-$, $-C_6H_4-$, $-C_6H_{10}-$, $-CH_2C_6H_4-$, $-CH_2NHCOCH_2CH(CH_2CO_2H)-C_6H_4-$, $-CH_2NHCOCH_2OCH_2-$, or $-CH_2NHCOCH_2C_6H_4-$

group.

68. (Previously Presented) A method according to claim 61, wherein the compound of formula Ia, is a compound in which K has one of the following structures:



69. **(Previously Presented)** A method according to claim 61 , wherein the compound of formula Ia, is a compound in which the perfluoroalkyl chain is R^F is $-C_6F_{13}$, $-C_8F_{17}$, $-C_{10}F_{21}$ or $-C_{12}F_{25}$.

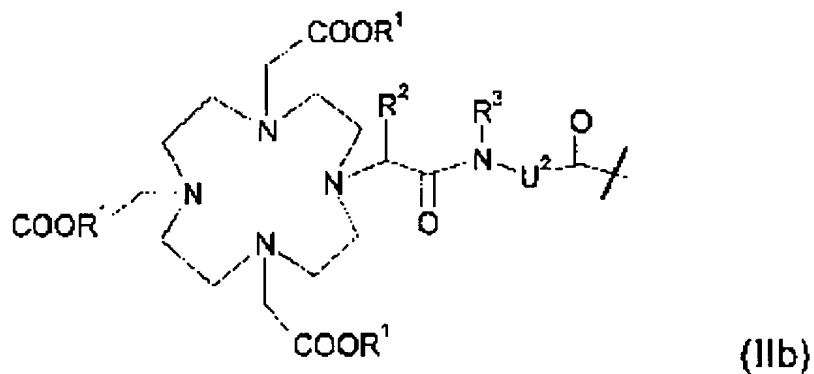
70. **(Previously Presented)** A method according to claim 61 , wherein the compound of formula Ia is a gadolinium complex of 1,4,7-tris{1,4,7-tris(N-(carboxylatomethyl)-10-[N-1-methyl-3,6-diaza-2,5,8-trioxooctane-1,8-diyl]-1,4,7,10-tetraazacyclododecane, Gd complex}-10-[N-2H,2H,4H,4H,5H,5H-3-oxa-perfluorotridecanoyl]-1,4,7,10-tetraazacyclododecane .

71. **(Previously Presented)** A method according to claim 51 , wherein the perfluoroalkyl-containing metal complex, is a compound of formula Ib



in which

K is a complexing agent or a metal complex of formula IIb



whereby

R^1 is a hydrogen atom or a metal ion equivalent of atomic numbers 23-

29, 42-46 or 58-70,

R^2 and R^3 are independently a hydrogen atom, a C_1 - C_7 alkyl group, a benzyl group, a phenyl group, $-CH_2OH$ or $-CH_2OCH_3$,

U^2 is radical L^1 , whereby L^1 and U^2 , independently of one another, can be the same or different,

A^1 is a hydrogen atom, a straight-chain or branched C_1 - C_{30} alkyl group, which optionally is interrupted by 1-15 oxygen atoms, and/or optionally is substituted with 1-10 hydroxy groups, 1-2 $COOH$ groups, a phenyl group, a benzyl group and/or 1-5 $-OR^9$ groups, with R^9 having the meaning of a hydrogen atom or a C_1 - C_7 alkyl radical, or $-L^1-R^F$,

L^1 is a straight-chain or branched C_1 - C_{30} alkylene group, which optionally is interrupted by 1-10 oxygen atoms, 1-5 $-NH-CO$ groups, 1-5 $-CO-NH$ groups, by a phenylene group optionally substituted by a $COOH$ - group, 1-3 sulfur atoms, 1-2 $-N(B^1)-SO_2$ groups and/or 1-2 $-SO_2-N(B^1)$ -groups with B^1 in the meaning of A^1 , an $NHCO$ group, a $CONH$ group, an $N(B^1)-SO_2$ group or an $-SO_2-N(B^1)$ group and/or optionally is substituted with radical R^F , and

R^F is a straight-chain or branched perfluorinated alkyl radical of formula $C_nF_{2n}E$, whereby n is number 4-30, and

E is a terminal fluorine atom, chlorine atom, bromine atom, iodine atom or a hydrogen atom,

and optionally present acid groups optionally can be present as salts of organic and/or inorganic bases or amino acids or amino acid amides.

72. (Previously Presented) A method according to claim 71, wherein the compound of formula Ib, is a compound in which R^2 , R^3 and R^9 , independently of one another, mean hydrogen or a C_1 - C_4 alkyl group.

73. (Previously Presented) A method according to claim 71, wherein the

compound of formula Ib, is a compound in which A¹ is hydrogen, a C₁-C₅ alkyl radical, or the radicals

C₂H₄-O-CH₃, C₃H₆-O-CH₃,
 C₂H₄-O-(C₂H₄-O)_t-C₂H₄-OH,
 C₂H₄-O-(C₂H₄-O)_t-C₂H₄-OCH₃, C₂H₄OH,
 C₃H₆OH, C₄H₈OH, C₅H₁₀OH, C₆H₁₂OH, C₇H₁₄OH,
 CH(OH)CH₂OH,
 CH(OH)CH(OH)CH₂OH, CH₂[CH(OH)]_u¹CH₂OH,
 CH[CH₂(OH)]CH(OH)CH₂OH,
 C₂H₄CH(OH)CH₂OH,
 (CH₂)_sCOOH,
 C₂H₄-O-(C₂H₄-O)_t-CH₂COOH , or
 C₂H₄-O-(C₂H₄-O)_t-C₂H₄-C_nF_{2n}E

whereby

s is integers 1 to 15,
 t is integers 0 to 13,
 u¹ is integers 1 to 10,
 n is integers 4 to 20, and
 E is hydrogen, fluorine, chlorine, bromine or iodine atoms, and optionally, their branched isomers.

74. (Previously Presented) A method according to claim 71, wherein the compound of formula Ib, is a compound in which A¹ is hydrogen, C₁-C₁₀ alkyl, C₂H₄-O-CH₃, C₃H₆-O-CH₃, C₂H₄-O-(C₂H₄-O)_x-C₂H₄-OH, C₂H₄-O-(C₂H₄-O)_x-C₂H₄-OCH₃, C₂H₄OH, C₃H₆OH,

$\text{CH}_2[\text{CH}(\text{OH})]_y\text{CH}_2\text{OH}$,
 $\text{CH}[\text{CH}_2(\text{OH})]\text{CH}(\text{OH})\text{CH}_2\text{OH}$,
 $(\text{CH}_2)_w\text{COOH}$,
 $\text{C}_2\text{H}_4\text{-O-(C}_2\text{H}_4\text{-O)}_x\text{-CH}_2\text{COOH}$ or
 $\text{C}_2\text{H}_4\text{-O-(C}_2\text{H}_4\text{-O)}_x\text{-C}_2\text{H}_4\text{-C}_n\text{F}_{2n}\text{E}$,

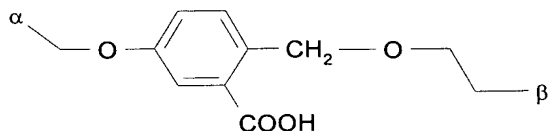
whereby

x is integers 0 to 5,
 y is integers 1 to 6,
 w is integers 1 to 10,
 n is integers 4 to 15, and
 E is a fluorine atom, and, optionally, their branched isomers.

75. **(Previously Presented)** A method according to claim 71, wherein the compound of formula Ib, is a compound in which L^1 is

$\alpha\text{-(CH}_2)_5\text{-}\beta$
 $\alpha\text{-CH}_2\text{-CH}_2\text{-(O-CH}_2\text{-CH}_2\text{)}_y\text{-}\beta$
 $\alpha\text{-CH}_2\text{-(O-CH}_2\text{-CH}_2\text{)}_y\text{-}\beta$,
 $\alpha\text{-CH}_2\text{-NH-CO-}\beta$
 $\alpha\text{-CH}_2\text{-CH}_2\text{-NH-SO}_2\text{-}\beta$
 $\alpha\text{-CH}_2\text{-NH-CO-CH}_2\text{-N(CH}_2\text{COOH)-SO}_2\text{-}\beta$
 $\alpha\text{-CH}_2\text{-NH-CO-CH}_2\text{-N(C}_2\text{H}_5\text{)-SO}_2\text{-}\beta$
 $\alpha\text{-CH}_2\text{-NH-CO-CH}_2\text{-N(C}_{10}\text{H}_{21}\text{)-SO}_2\text{-}\beta$
 $\alpha\text{-CH}_2\text{-NH-CO-CH}_2\text{-N(C}_6\text{H}_{13}\text{)-SO}_2\text{-}\beta$
 $\alpha\text{-CH}_2\text{-NH-CO-(CH}_2\text{)}_{10}\text{-N(C}_2\text{H}_5\text{)-SO}_2\text{-}\beta$
 $\alpha\text{-CH}_2\text{-NH-CO-CH}_2\text{-N(-CH}_2\text{-C}_6\text{H}_5\text{)-SO}_2\text{-}\beta$
 $\alpha\text{-CH}_2\text{-NH-CO-CH}_2\text{-N(-CH}_2\text{-CH}_2\text{-OH)SO}_2\text{-}\beta$
 $\alpha\text{-CH}_2\text{-NHCO-(CH}_2\text{)}_{10}\text{-S-CH}_2\text{CH}_2\text{-}\beta$
 $\alpha\text{-CH}_2\text{NHCOCH}_2\text{-O-CH}_2\text{CH}_2\text{-}\beta$
 $\alpha\text{-CH}_2\text{-CH}_2\text{NHCOCH}_2\text{-O-CH}_2\text{CH}_2\text{-}\beta$
 $\alpha\text{-CH}_2\text{-(CH}_2\text{-CH}_2\text{-O)}_t\text{-(CH}_2\text{)}_3\text{NHCO-CH}_2\text{-O-CH}_2\text{CH}_2\text{-}\beta$
 $\alpha\text{-CH}_2\text{NHCO(CH}_2\text{)}_{10}\text{-O-CH}_2\text{CH}_2\text{-}\beta$
 $\alpha\text{-CH}_2\text{CH}_2\text{NHCO(CH}_2\text{)}_{10}\text{-O-CH}_2\text{CH}_2\text{-}\beta$

$\alpha\text{-CH}_2\text{-C}_6\text{H}_4\text{-O-CH}_2\text{CH}_2\text{-}\beta$ whereby the phenylene group 1,4 or 1,3 is linked
 $\alpha\text{-CH}_2\text{-O-CH}_2\text{-C}(\text{CH}_2\text{-OCH}_2\text{CH}_2\text{-C}_6\text{F}_{13})_2\text{-CH}_2\text{-OCH}_2\text{-CH}_2\text{-}\beta$
 $\alpha\text{-CH}_2\text{-NHCOCH}_2\text{CH}_2\text{CON-CH}_2\text{CH}_2\text{NHCOCH}_2\text{N}(\text{C}_2\text{H}_5)\text{SO}_2\text{C}_8\text{F}_{17}\beta$
 $\alpha\text{-CH}_2\text{-CH}_2\text{NHCOCH}_2\text{N}(\text{C}_2\text{H}_5)\text{-SO}_2\text{-}\beta$
 $\alpha\text{-CH}_2\text{-O-CH}_2\text{-CH}(\text{OC}_{10}\text{H}_{21})\text{-CH}_2\text{-O-CH}_2\text{CH}_2\text{-}\beta$
 $\alpha\text{-(CH}_2\text{NHCO)}_4\text{-CH}_2\text{O-CH}_2\text{CH}_2\text{-}\beta$
 $\alpha\text{-(CH}_2\text{NHCO)}_3\text{-CH}_2\text{O-CH}_2\text{CH}_2\text{-}\beta$
 $\alpha\text{-CH}_2\text{-OCH}_2\text{C}(\text{CH}_2\text{OH})_2\text{-CH}_2\text{-O-CH}_2\text{CH}_2\text{-}\beta$



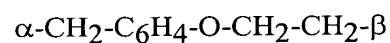
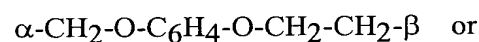
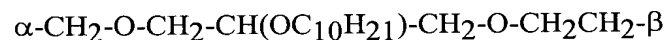
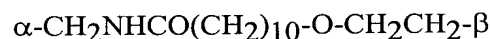
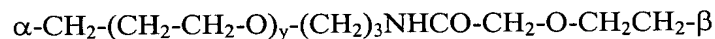
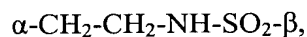
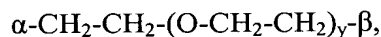
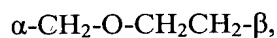
$\alpha\text{-CH}_2\text{NHCOCH}_2\text{N}(\text{C}_6\text{H}_5)\text{-SO}_2\text{-}\beta$
 $\alpha\text{-NHCO-CH}_2\text{-CH}_2\text{-}\beta$
 $\alpha\text{-NHCO-CH}_2\text{-O-CH}_2\text{CH}_2\text{-}\beta$
 $\alpha\text{-NH-CO-}\beta$
 $\alpha\text{-NH-CO-CH}_2\text{-N}(\text{CH}_2\text{COOH})\text{-SO}_2\text{-}\beta$
 $\alpha\text{-NH-CO-CH}_2\text{-N}(\text{C}_2\text{H}_5)\text{-SO}_2\text{-}\beta$
 $\alpha\text{-NH-CO-CH}_2\text{-N}(\text{C}_{10}\text{H}_{21})\text{-SO}_2\text{-}\beta$
 $\alpha\text{-NH-CO-CH}_2\text{-N}(\text{C}_6\text{H}_{13})\text{-SO}_2\text{-}\beta$
 $\alpha\text{-NH-CO-(CH}_2\text{)}_{10}\text{-N}(\text{C}_2\text{H}_5)\text{-SO}_2\text{-}\beta$
 $\alpha\text{-NH-CO-CH}_2\text{-N(-CH}_2\text{-C}_6\text{H}_5)\text{-SO}_2\text{-}\beta$
 $\alpha\text{-NH-CO-CH}_2\text{-N(-CH}_2\text{-CH}_2\text{-OH)}\text{SO}_2\text{-}\beta$
 $\alpha\text{-NH-CO-CH}_2\text{-}\beta$
 $\alpha\text{-CH}_2\text{-O-C}_6\text{H}_4\text{-O-CH}_2\text{-CH}_2\text{-}\beta$
 $\alpha\text{-CH}_2\text{-C}_6\text{H}_4\text{-O-CH}_2\text{-CH}_2\text{-}\beta$
 $\alpha\text{-N}(\text{C}_2\text{H}_5)\text{-SO}_2\text{-}\beta$
 $\alpha\text{-N}(\text{C}_6\text{H}_5)\text{-SO}_2\text{-}\beta$
 $\alpha\text{-N}(\text{C}_{10}\text{H}_{21})\text{-SO}_2\text{-}\beta$
 $\alpha\text{-N}(\text{C}_6\text{H}_{13})\text{-SO}_2\text{-}\beta$
 $\alpha\text{-N}(\text{C}_2\text{H}_4\text{OH})\text{-SO}_2\text{-}\beta$
 $\alpha\text{-N}(\text{CH}_2\text{COOH})\text{-SO}_2\text{-}\beta$
 $\alpha\text{-N}(\text{CH}_2\text{C}_6\text{H}_5)\text{-SO}_2\text{-}\beta$
 $\alpha\text{-N-[CH(CH}_2\text{OH)}_2\text{]-SO}_2\text{-}\beta$ or
 $\alpha\text{-N-[CH(CH}_2\text{OH)CH(OH)(CH}_2\text{OH)]-SO}_2\text{-}\beta$

whereby

s is integers 1 to 15 and

y is integers 1 to 6.

76. **(Previously Presented)** A method according to claim 71, wherein the compound of formula Ib, is a compound in which L^1 is



whereby

y is an interger from 1 to 6.

77. **(Previously Presented)** A method according to claim 71, wherein the compound of formula Ib, is a compound in which R^F is a straight-chain or branched perfluorinated alkyl radical of formula $C_nF_{2n}E$, whereby n is a number from 4 to 15 and E stands for a terminal fluorine atom.

78. (Previously Presented) A method according to claim 71 , wherein the compound of formula Ib is a :

1,4,7-Tris(carboxylatomethyl)-10-(3-aza-4-oxo-hexan-5-yl)-acid-(2,3-dihydroxypropyl)-N-(1H,1H,2H,2H,4H,4H,5H,5H-3-oxa)-perfluorotridecyl]-amide]-1,4,7,10-tetraazacyclododecane, gadolinium complex,

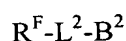
1,4,7-Tris(carboxylatomethyl)-10-[(3-aza-4-oxo-hexan-5-yl)-acid-N-(3,6,9,12,15-pentaoxa)-hexadecyl]-amide]-1,4,7,10-tetraazacyclododecane, gadolinium complex,

1,4,7-Tris(carboxylatomethyl)-10-[(3-aza-4-oxo-hexan-5-yl)-acid-N-5-hydroxy-3-oxa-pentyl]-amide]-1,4,7,10-tetraazacyclododecane, gadolinium complex,

1,4,7-Tris(carboxylatomethyl)-10-[(3-aza-4-oxo-hexan-5-yl)-acid-N-(3,6,9,15-tetraoxa-12-aza-15-oxo-C₁₇-C₂₆-hepta-decafluor)hexacosyl]-amide]-1,4,7,10-tetraazacyclododecane, gadolinium complex, or

1,4,7-Tris(carboxylatomethyl)-10-[(3-aza-4-oxo-hexan-5-yl)-acid-N-(2-methoxyethyl)-N-(1H,1H,2H,2H,4H,4H,5H,5H-3-oxa)-perfluorotridecyl]-amide]-1,4,7,10-tetraazacyclododecane, gadolinium complex.

79. (Previously Presented) A method according to claim 57, wherein the perfluoroalkyl-containing metal complex is in a galenical formulation that contains a paramagnetic, perfluoroalkyl-containing metal complex of formula I, and a diamagnetic perfluoroalkyl-containing substance, optionally dissolved in an aqueous solvent, wherein the diamagnetic perfluoroalkyl-containing substance is a compound of formula XX



(XX)

in which R^F is a straight-chain or branched perfluoroalkyl radical with 4 to 30 carbon atoms, L^2 is a linker and B^2 is a hydrophilic group.

80. (Previously Presented) A method according to claim 79, wherein linker L^2 is a direct bond, an $-SO_2$ group, or a straight-chain or branched carbon chain with 1 to 20 carbon atoms, which can be substituted with one or more $-OH$, $-COO$, $-SO_3$ groups and/or optionally contains one or more $-O-$, $-S-$, $-CO-$, $-CONH-$, $-NHCO-$, $-CONR^9-$, $-NR^9CO-$, $-SO_2-$, $-PO_4-$, $-NH-$ or $-NR^9$ groups, an aryl ring or a piperazine, whereby R^9 is a C_1 to C_{20} alkyl radical, which in turn can contain one or more O atoms, and/or can be substituted with $-COO-$ or SO_3 groups.

81. (Previously Presented) A method according to claim 79, wherein hydrophilic group B^2 is a mono- or disaccharide, with one or more adjacent $-COO^-$ or $-SO_3$ groups, a dicarboxylic acid, an isophthalic acid, a picolinic acid, a benzenesulfonic acid, a tetrahydropyrandicarboxylic acid, a 2,6-pyridinedicarboxylic acid, a quaternary ammonium ion, an aminopolycarboxylic acid, an aminodipolyethylene glycolsulfonic acid, an aminopolyethylene glycol group, an $SO_2-(CH_2)_2-OH$ group, a polyhydroxyalkyl chain with at least two hydroxyl groups or one or more polyethylene glycol chains with at least two glycol units, whereby the polyethylene glycol chains are terminated by an $-OH$ or $-OCH_3$ group.

82. (Previously presented) A method according to claim 55, wherein the metal complex has a hydrodynamic micelle diameter of > 4 nm.

83. (Previously presented) A method according to claim 56, wherein the metal complex has a proton relaxivity in plasma of > 15 l/mmol.s.

84. (Previously presented) A method according to claim 61, wherein the perfluoroalkyl-containing metal complex is in a galenical formulation that contains a

paramagnetic, perfluoroalkyl-containing metal complex of formula Ia and diamagnetic perfluoroalkyl-containing substance, optionally dissolved in an aqueous solvent.

85. **(Previously presented)** A method according to claim 71, wherein the perfluoroalkyl-containing metal complex is in a galenical formulations that contains a paramagnetic, perfluoroalkyl-containing metal complex of formula Ib, and a diamagnetic perfluoroalkyl-containing substance, optionally dissolved in an aqueous solvent.

86. **(Currently amended)** A method according to claim 51, wherein plaque in which contrast agent is uptaken is visualized.

87. **(New)** A method according to claim 51, wherein necroses and tumors in which contrast agent is uptaken are independently and simultaneously visualized.